

101328-165

1/6

FIG. 1

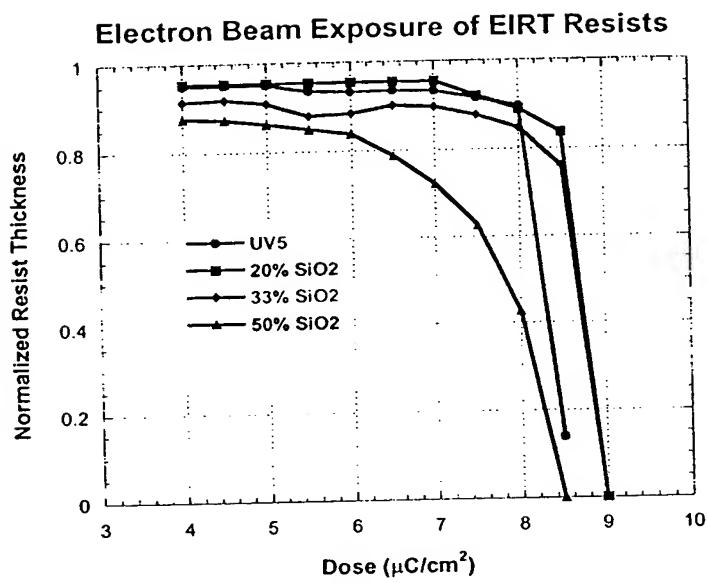


Figure 1. Comparison of contrast curves of EIRT resists and the commercial resist UV5 with electron beam exposure.

FIG. 2

UV5 Resist Commercial Organic Resist

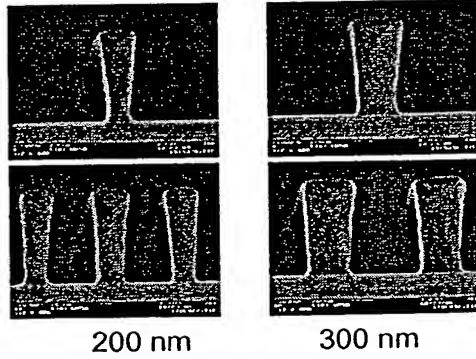
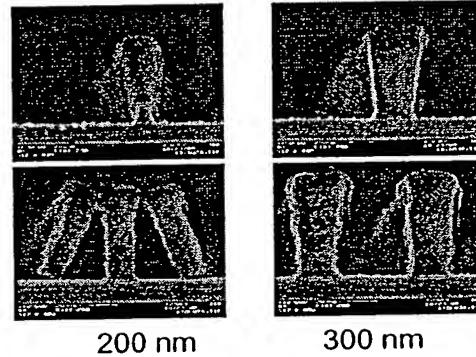
Experimental 20% SiO₂ EIRT Resist

Figure 2. Comparison of electron beam imaging of 200 and 300-nm dense and isolated lines of an EIRT resist and the commercial resist UV5.

101328-165

3/6

FIG. 3

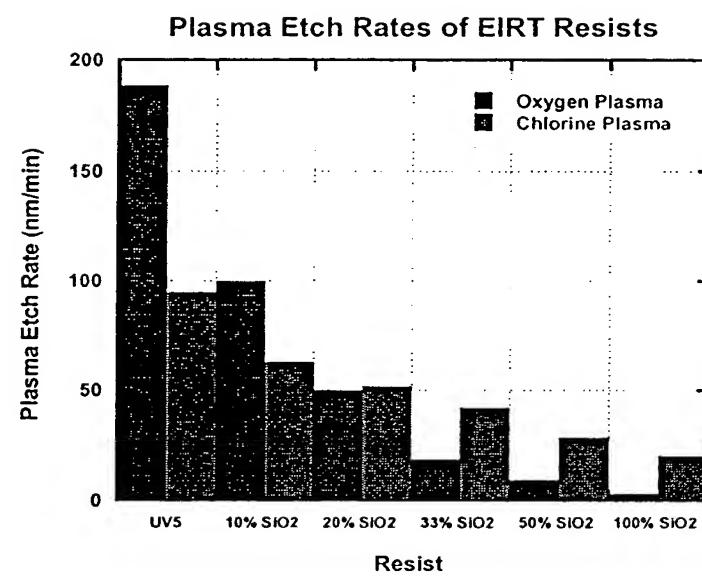


Figure 3. Comparison of RIE etch rates of resists containing increasing amounts of SiO₂ in both an oxygen and chlorine plasma.

FIG. 4

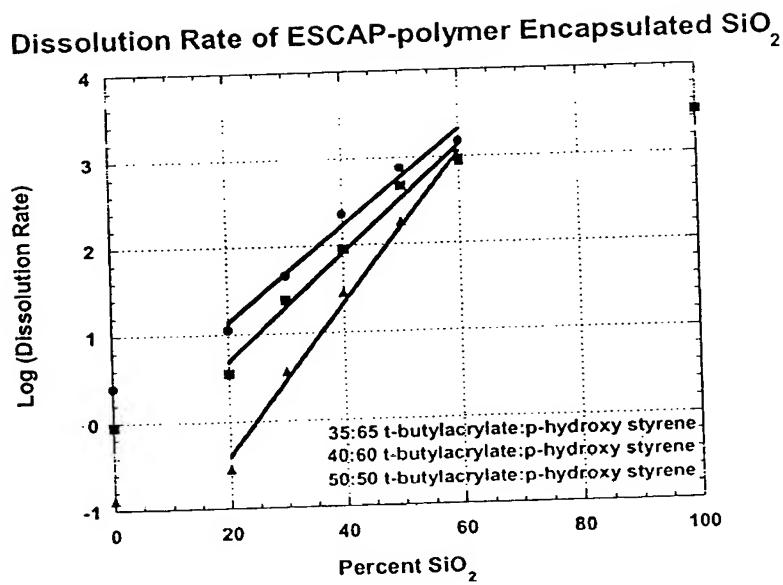


Figure 4. Dissolution rates of three different polymers with varying levels of SiO_2 incorporation.

FIG. 5

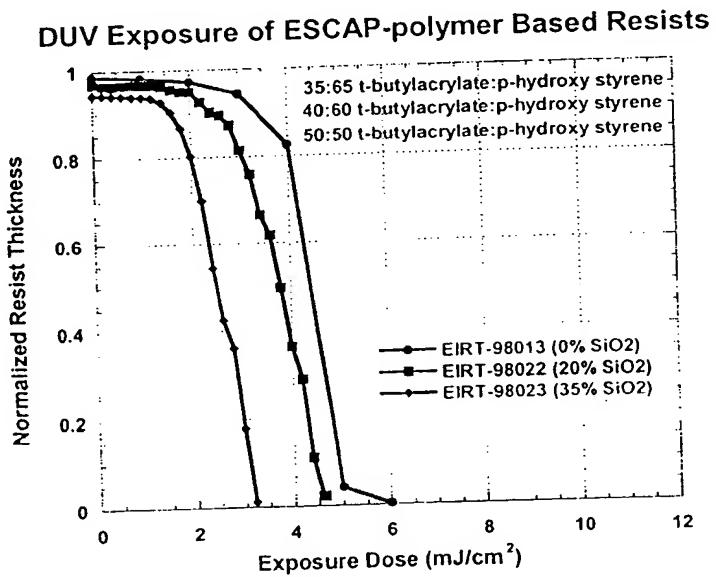


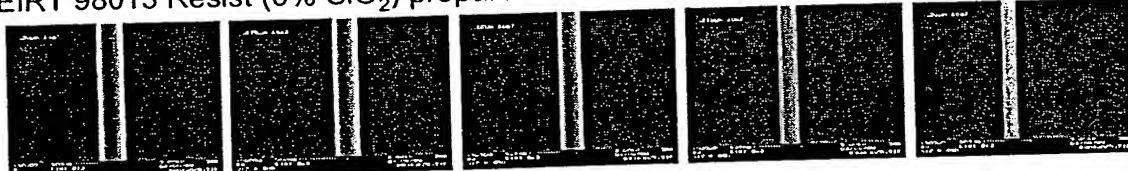
Figure 5. Comparison of contrast curves of three EIRT resists of improved formulation.

101328-165

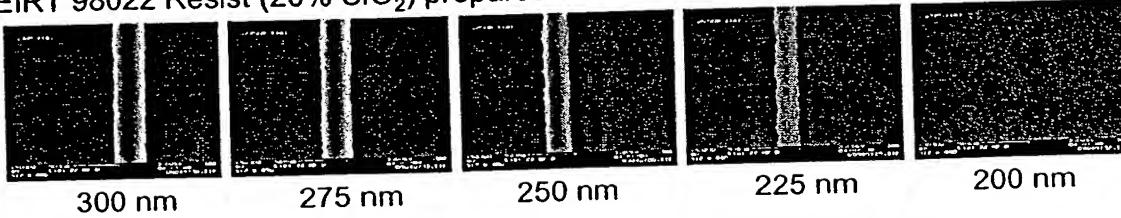
6/6

FIG. 6

EIRT 98013 Resist (0% SiO_2) prepared from 35:65 t-butylacrylate:p-hydroxystyrene



EIRT 98022 Resist (20% SiO_2) prepared from 40:60 t-butylacrylate:p-hydroxystyrene



300 nm

275 nm

250 nm

225 nm

200 nm

Figure 6. Comparison of 248-nm imaging ($\text{NA} = 0.48$) of isolated lines of a 20% SiO_2 containing EIRT resist and a resist containing no SiO_2 .